

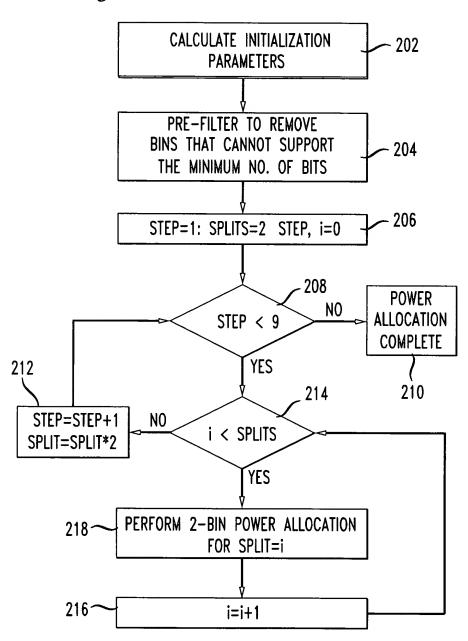
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				1/4						
	NO. OF 2-TONE SOLUTIONS	-	2	4	 	16	32	64	128	NS = 255
	STEP	-	2	3	 4 	5	 9 	7	8	SOLUTIO
1 .6 + +	552			138	69			· —— ·	C71 C.4	TOTAL NO. OF 2-TONE SOLUTIONS = 255



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FIG. 2





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FIG. 3

302 MODEM HAVING APPARATUS FOR ALLOCATION OF AN AVAILABLE POWER TO DISCRETE MULTI-TONE (DMT) FREQUENCY TONES IN A DMT-BASED DIGITAL SUBSCRIBER LINE (DSL) **APPARATUS** - 306 INITIALIZATION UNIT AVAILABLE POWER 308 310 REPEATED-BISECTION PRE-FILTERING POWER SPLITTING AND UNIT **ALLOCATION UNIT POWER ALLOCATION** FOR BINS 304



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FIG. 4

408 METHOD/COMPUTER READABLE MEDIUM WITH COMPUTER-EXECUTABLE INSTRUCTIONS 402 404 INITIALIZING THE DMT-BASED DSL PRE-FILTERING TO FLAG NOISY MODEM BY CALCULATING AGGREGATE BINS THAT ARE UNABLE TO VALUES OF CHANNEL ATTENUATION, SUPPORT A MINIMUM NUMBER NOISE POWER, AND POWER MASK, AND OF BITS WITH A MAXIMUM WHERE SELECTED, EXCLUDING BINS POWER AVAILABLE FOR FLAGGED BY PRE-FILTERING TRANSMISSION IN A BIN 406 USING A REPEATED-BISECTION SPLITTING SCHEME TO ALLOCATE THE AVAILABLE POWER SUBSTANTIALLY OPTIMALLY AMONG A PLURALITY OF BANDS FOR DMT FREQUENCY TONES, WHERE BINS FLAGGED BY PRE-FILTERING REMAIN UNEXCLUDED, SAID SCHEME EXCLUDES BINS FLAGGED IN THE PRE-FILTERING STEP